Nova Scotia Public Education
Teacher Supply and Demand

2004 Update Report

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Executive Summary

Purpose

This study updates the previous research study on *Nova Scotia Public Education Teacher Demand and Supply* completed in 2001. This *Update* provides a revised outlook for public education teacher supply and demand. The *Update* is based on the most current data relating to the Nova Scotia labour market for teachers.

In 2003–2004, Nova Scotia public education had 148,514 students (73,606—elementary, 37,045—junior high, 37,863—high school). In 2002–2003, there were 12,140 teachers (8,334—permanent/probationary, 1,507—term, 2,299—substitute).

Demand for Teachers in Nova Scotia

The number of teachers (noted in full-time equivalents, or FTEs) is projected to decline by 1,231, or 12.3 per cent, from 2004–2005 to 2012–2013, in response to a decrease of 16.7 per cent in student enrolments. Although employment is declining, there is a projected net demand for 3,671 new teachers between 2004–2005 to 2012–2013 to partially replace teachers who

- retire or become disabled—totalling an estimated 3,912
- leave public education due to occupational mobility, primarily by term teachers—estimated at 936
- death—estimated at 54

Supply of Teachers

The new supply of teachers (i.e., qualified new entrants in Nova Scotia public education who are likely to seek teaching positions in the province) is estimated to average 595 per year through to 2012–2013. Annual supply includes 264 Nova Scotians who graduate from teacher education programs in the province and 331 teachers trained in other jurisdictions.

Assuming this supply will continue in future years, there will not be an aggregate shortage of teachers in Nova Scotia.

Substitute Teacher Labour Market

In 2002–2003, there were 2,299 active substitute teachers, representing a teaching effort of 719 full-time equivalents. The number of substitute teachers has not changed substantially over the last few years, while the FTEs showed some increases.

The probability of substitute teachers becoming regular teachers is low. For example, of the substitute teachers active in 1997–1998, by 2002–2003 only 13.0 per cent had obtained probationary/permanent positions and 18.6 per cent had obtained term positions.

Attrition of substitute teachers is approximately 23 per cent each year. The primary reasons stated by substitute teachers for attrition are low earnings from substitute teaching and limited prospects for regular teacher employment.

Integrated View of Teacher Supply and Demand

Many new teachers begin their careers as substitutes with the intention of becoming permanent teachers. Based on the assumptions related to factors affecting supply and demand of teachers, the effective substitute teacher pool is expected to decline from 2,174 in 2004–2005 to 1,810 in 2012–2013. The substitute teacher labour force will likely be sufficient to meet overall demand, however, there may be some difficulties in meeting demand in certain geographic regions and in particular subject areas.

Supply and Demand by Subject and Specialty Area

The undergraduate major (and minor) of the teachers receiving their initial teacher certificates in 2003 is used as a proxy for future supply by subject area. If the pattern in 2003 continues throughout the projection period there will be:

- an oversupply of English, social studies and biology teachers
- a shortage in mathematics teachers
- a tight labour market for physics, physical education, fine arts (other than music), and family studies teachers

While the level of new supply for elementary grade teachers is close to the demand projections, there are a large of teachers in the substitute pool with a concentration at the elementary level.

For student support services, there continues to be a strong demand for special education/resource teachers and speech therapists.

Information was not available on the supply and demand of French-speaking teachers for first and second language instruction, however, demand continues to increase. It can be expected that the difficulties experienced by the demand for English-speaking teachers in certain subject areas would be further exacerbated by the additional language requirement. The new program being offered by the Université Sainte-Anne may assist in addressing this need.

Conclusion

The research indicates that there is generally an adequate supply of teachers overall and the enrolment levels or number of seats in the four teacher education institutions is appropriate. However, to ensure an adequate supply of teachers in the subject areas of need, continued efforts are required to recruit candidates with backgrounds in those areas to ensure the best possible educational experience for Nova Scotia students.

The substitute teacher labour market is a valuable resource to the Nova Scotia public school system. Future initiatives should focus on retaining these teachers to ensure an adequate supply, particularly in subject areas where demand may be higher than or close to supply and in all geographical areas.

1. Introduction

In January 2000, the Department of Education published a research paper on teacher demand and supply, *Nova Scotia Public Education Teacher Demand and Supply*. This research was updated in 2001 and the results were published in the report on *Nova Scotia Public Education Teacher Demand and Supply: Research Paper—2001 Update*. Both of these reports examined the Nova Scotia public education teacher labour market for "regular" (probationary, permanent and term teachers) and substitute teachers, and projected teacher demand and supply. The purpose of the 2004 *Update* report is to revise the projections on teacher demand and supply and move the projections out to the 2012–2013 school year. The CEDAR database of the Department of Education was used to produce statistics on the number of teachers, their certification, and their activity over the past few years. Data and methodology provided from Teachers' Pension Board were used to project retirements and disabilities.

The most recent data used for this report is for the 2002–2003 school year. At that time there was one regional school board in the Southwest region of Nova Scotia and two district boards. During this project the two district boards have become regional boards. Where possible, statistics are provided for the district boards.

The 2004 *Update* report is organized into nine sections

- Introduction
- An overview of teacher supply and demand in other jurisdictions—reflecting changes in the teacher labour market outlook
- An employment profile of Nova Scotia teachers
- Demand projections for teachers in the Nova Scotia public school system
- An outlook on current and future teacher supply
- An analysis of the substitute teacher labour market
- An integrated view of teacher aggregate demand and supply in Nova Scotia, including a view of the linkages and dynamics between the regular and substitute teacher components
- An analysis of projected imbalances of teacher supply and demand by subject, specialty area, and administration
- A summary of the findings of the report

2. Teacher Supply and Demand in Other Jurisdictions

In the late 1990s there were general concerns about possible teacher shortages in the public school system. As with other labour markets, the aging workforce of teachers and the increasing retirements associated with this led to concerns that the new supply of teachers would not be able to fill the demand created by these retirements. Many jurisdictions undertook research studies on teacher supply and demand; some projected that there would be teacher shortages, while others projected that there would not be an aggregate shortage of teachers but there would be shortages in certain subjects and geographical areas.

In the most recent literature, it appears that the concern about teacher shortages has lessened, although concerns remain about shortages in certain subjects and geographical locations. Studies in Alberta and Manitoba support this view. In the United States, the concern about potential shortages has lessoned, although there are still concerns about shortages in specific subject areas and in certain geographical areas. Current information from the United States suggest that the recession and initiatives to help overcome the teacher shortage may have helped to alleviate concerns of teacher shortages. Some studies indicate that the problem is not related to the number of graduates from teacher education programs, but it is in retaining qualified teachers.

Early initiatives to help overcome teacher shortages focussed on teacher recruitment and encouraging students to enter teacher education programs. Although there is still some focus on recruitment, there is an increasing focus around the retention of teachers.

3. Employment Profile of Nova Scotia Teachers

3.1 Teacher Employment Status

The data provided in this *Update* report refer to teachers employed by the school boards who are covered under the *Teachers' Provincial Agreement* between the NSTU and the Nova Scotia Government. The agreement covers teachers with classroom and administrative assignments; many administrators have both. Regardless of the nature of their assignment, teachers are required to be certified by the Department of Education.

During a school year, certified teachers in the Nova Scotia public school system can be actively teaching or on special leave, such as maternity leave, sick leave or a leave of absence. An "active" teacher is one who works at least one day for any school board in the province during the school year.

The following classifications of public education teachers are used in this *Update*

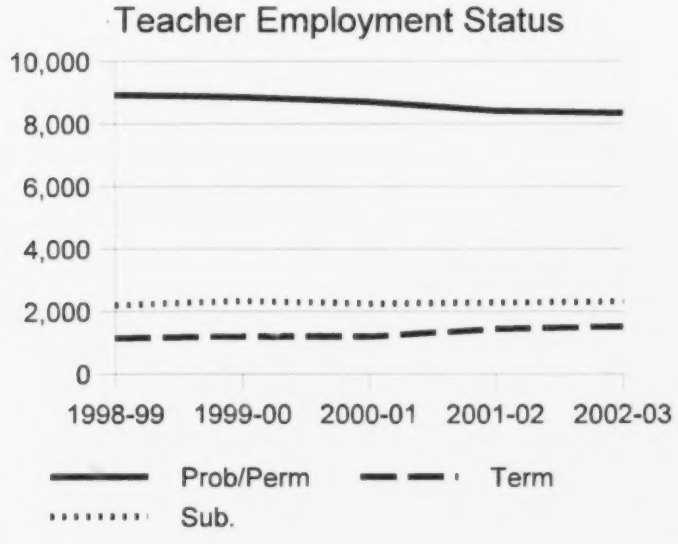
- Permanent teachers are regular employees of the school boards, and are protected for job security by rights set forth in the *Teachers' Provincial Agreement*.
- Probationary teachers are regular employees of the school boards who are serving a two-year probationary period before becoming permanent teachers.
- Term teachers are hired by the school boards for fixed, specific durations.
- Substitute teachers are engaged by the school boards for short-term, often daily, assignments to fill in for absences of "regular" teachers, caused by short-term illness, other personal short-term leave, and professional development days.

"Regular" teachers refer to permanent, probationary and term teachers in the Nova Scotia public school system.

The employment status of a teacher may change throughout the school year. A teacher may move from a substitute position to a term position or even a probationary position. For the purposes of this study the teachers are classified according to the highest employment status held during the year. For example, if a teacher was a substitute teacher for part of the year and then they moved to a term position, they are counted as a term teacher, even if they moved back to a substitute teacher at the end of the school year. If a teacher moved from a term position to a probationary position, they are counted as a probationary teacher.

Table 1
Active Teachers by Status and Year

Status	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Probationary/ Permanent	8,916	8,853	8,698	8,419	8,334
Term	1,135	1,187	1,189	1,430	1,507
Substitute	2,195	2,324	2,233	2,267	2,299
Total	12,246	12,364	12,120	12,116	12,140



The number of permanent and probationary teachers has been decreasing over the past five years, while the number of term teachers has increased. The number of substitute teachers has remained relatively constant.

As exhibited in Table 2, the Halifax Regional School Board employs the largest number of teachers. In most boards about two-thirds of the teachers are in permanent or probationary positions. The Cape Breton-Victoria Regional School Board has the highest percentage of permanent and probationary positions, while CSAP has the lowest. Cape Breton-Victoria and the Strait boards have the lowest percentage of term teachers, while the Strait board has the highest percentage of substitute teachers.

Table 2
Teachers by School Board and Status, 2002–2003

School Board	Teacher Status*				
	Permanent	Probationary	Term	Substitute	Total
Cape Breton-Victoria	1,214 (71.7%)	4 (0.2%)	93 (5.5%)	383 (22.7%)	1,694
Strait	573 (65.5%)	19 (2.2%)	44 (5.0%)	239 (27.3%)	875
Chignecto-Central	1,365 (66.0%)	4 (0.2%)	302 (14.6%)	398 (19.2%)	2,069
Halifax	2,916 (65.5%)	79 (1.8%)	655 (14.7%)	799 (18.0%)	4,449
Annapolis Valley	841 (62.6%)	44 (3.3%)	194 (14.4%)	265 (19.7%)	1,344
Southwest	953 (67.7%)	41 (2.9%)	157 (11.2%)	257 (18.3%)	1,408
Southwest Board	4 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4
South Shore District	479 (65.0%)	17 (2.3%)	85 (11.5%)	156 (21.2%)	737
Tri County District	470 (70.5%)	24 (3.6%)	72 (10.8%)	101 (15.1%)	667
Acadian provincial	253 (55.6%)	28 (6.2%)	70 (15.4%)	104 (22.9%)	455
Nova Scotia**	8,115 (66.8%)	219 (1.8%)	1,507 (12.4%)	2,299 (18.9%)	12,140

*Excludes teachers on full-year leave.
**Total number of teachers across all school boards may be greater than the number for Nova Scotia because teachers may work for more than one school board in a year.

3.2 Probationary and Term Teachers

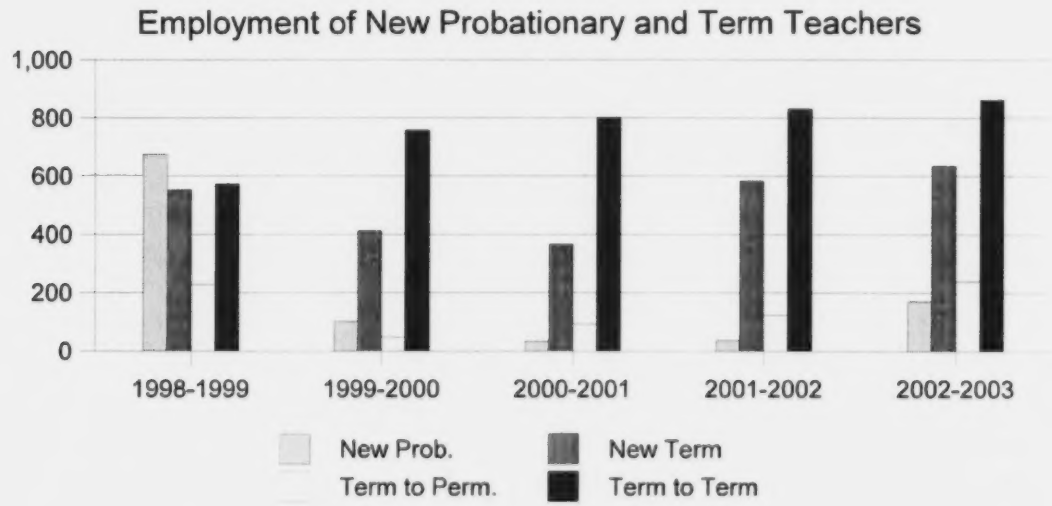
Teachers were offered an Early Retirement Program from 1994 to 1998, which resulted in a large number of retirements over this period. As well, student enrolment continues to decline which impacts the need for permanent teaching positions. These factors have resulted in fewer permanent positions becoming available after the 1998–1999 school year.

Often teachers work as term teachers prior to obtaining a permanent teaching position. The number of term teachers that have moved into permanent positions has been increasing since 1999–2000. Over the past five years the number of term teachers who have returned as term teachers has also been increasing.

Table 3
Employment of New Probationary and New Term Teachers

	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
New Probationary Teachers (1)	674	102	34	67	171
New Term Teachers (2)	552	411	364	583	633
New Permanent Teachers Who Were Term Teachers in the Previous Year	228	47	92	124	239
Term Teachers Who Were Term Teachers in the Previous Year (3)	572 (50.4%)	756 (63.7%)	799 (67.2%)	830 (58.0%)	861 (57.1%)

(1) Either term or substitute teacher in the previous school year or were not actively teaching in the previous school year.
(2) Either substitute teacher in the previous school year or were not actively teaching in the previous school year.
(3) The number in brackets represents the per cent compared to all term teachers.



4. Teacher Demand

4.1 The Demand Model

The demand for teachers refers to the number of new teachers who will be required annually by the school boards in Nova Scotia. There are several factors that affect the demand for new teachers in the Nova Scotia public school system

- the annual change in the level of teacher employment as a result of changes in student enrolments and student-teacher ratios
- attrition is a result of teacher retirements, disabilities, death, and occupational mobility

Projected teacher demand is expressed in terms of full-time equivalents (FTEs). When permanent teachers are on any type of leave they will be back filled with either a substitute or term teacher, depending on what type of leave they take. Teachers can either earn pensionable years of service while they are on leave or they can buy back their leave time as pensionable time. Therefore, for retirement purposes, permanent teachers are counted as working full-time, unless that are specifically designated as being part-time or job-sharing. If they job-share or work part-time, they are counted in relation to the portion of the year that they work.

4.2 Trends in Student Enrolments

The number of students enrolled is a fundamental determination of the number of teachers required. Downward trends in the birth rate have been reflected in decreases in student enrolments. Student enrolments are expected to continue to decrease over the projection period. Enrolment in elementary grades is expected to decrease more in the first part of the projection period than the second part. Enrolment in junior high and high school is expected to decrease more in the second part of the projection period.

The rate of decrease is expected to be lowest for the Halifax Regional School Board and CSAP, and highest in the Strait and Cape Breton-Victoria regional school boards. Decreasing enrolments will result in decreasing demand for permanent teachers.

Table 4
Actual and Projected Public School Enrolments

	Actual Enrolments		Projected Enrolments		Per cent Change (Per cent annual change)		
	1996–1997	2003–2004	2008–2009	2012–2013	1996–1997 to 2003–2004	2003–2004 to 2008–2009	2008– 2009 to 2012–2013
Elementary	85,756	73,606	62,725	58,918	-14.2% (-2.2%)	-14.8% (-3.1%)	-6.1% (-1.6%)
Junior High	38,117	37,045	32,391	28,199	-2.8% (-0.4%)	-12.6% (-2.6%)	-12.9% (-3.4%)
High School*	40,068	37,863	35,846	34,102	-5.5% (-0.8%)	-5.3% (-1.1%)	-4.9% (-1.2%)
Total	163,941	148,514	130,962	121,219	-9.4% (-1.4%)	-11.8% (-2.5%)	-7.4% (-1.9%)
Cape Breton-Victoria	24,024	19,173	15,664	N/A	-20.2% (-3.2%)	-18.3% (-4.0%)	N/A
Strait	11,476	9,192	7,566	N/A	-19.9% (-3.1%)	-17.7% (-3.8%)	N/A
Chignecto-Central	28,140	25,423	22,240	N/A	-9.7% (-1.4%)	-12.5% (-2.6%)	N/A
Halifax	58,219	56,388	51,391	N/A	-3.1% (-0.5%)	-8.9% (-1.8%)	N/A
Annapolis Valley	18,511	16,791	14,798	N/A	-9.3% (-1.4%)	-11.9% (-2.5%)	N/A
Southwest	19,418	17,394	--	N/A	-10.4% (-1.6%)	--	N/A
South Shore	--	8,945	7,697	N/A	--	-14.0% (-3.0%)	N/A
Tri-County	–	8,449	7,622	N/A	--	-9.8% (-2.0%)	N/A
Acadien provincial	4,153	4,153	3,984	N/A	-0.0% (-0.0%)	-4.1% (-0.8%)	N/A

*Includes "other" secondary grades.
N/A: Not Available.

4.3 French Language Instruction

Although enrolment in Nova Scotia public schools has been decreasing, overall it continues to increase for French language instruction. Enrolments in both early and late immersion programs have increased substantially. Enrolment in CSAP has virtually stayed the same and enrolment in extended core French has declined. From 1996–1997, overall enrolment in French language programs has increased 24.4 per cent, while enrolment in all public school programs has decreased 8.1 per cent.

Table 5
Enrolment in French First and Second Language Programs

Year	Acadien provincial	Early Immersion	Late Immersion	Extended Core	Total
1996–1997	4,057	4,052	4,387	4,121	16,617
1997–1998	4,181	4,164	4,800	4,248	17,393
1998–1999	4,248	4,530	5,200	4,388	18,366
1999–2000	4,169	4,996	5,507	4,172	18,844
2000–2001	4,109	5,335	6,128	3,946	19,518
2001–2002	4,029	6,107	6,201	3,530	19,867
2002–2003	4,059	6,428	6,726	3,462	20,675

4.4 Ratio of Students to Teachers

The ratio of students to teachers determines the number of teachers required for a given enrolment size. It is related to class size, but the education system also has teachers who have assignments away from the classroom in administration. The specification of a teacher in the ratio of students per teacher is complex, because the amount of input of a teacher is not fixed. Some teachers work full-time and others part-time (perhaps on a regular basis as substitutes). When trying to delineate teachers by grade level there is the additional complication that many teachers are involved in multiple grades, for example, a music teacher who has responsibilities in elementary, junior high, and senior high. The answer to resolving the difficulty in counting teachers, whether they have classroom or administrative duties, or both, is to measure the full-time equivalent (FTE) of teacher effort, which allocates teachers' time according to the amount devoted to each teaching and administrative task in relation to the standard workload of a full-time teacher.

The ratio of students to teachers is based on the number of students enrolled and the number of teacher FTEs at each grade level (i.e., elementary, junior high, and high school) and administration. Teacher FTEs at each grade level are based on the teaching effort at these levels. For example, if a teacher works at both an elementary and junior high school, the FTEs for each level is based on the time they worked at each of these levels.

Table 6 Recent and Projected Student to Teacher/Administrator Ratios

	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003	Projected 2012–2013
Elementary						
Students	82,993	81,930	80,418	78,626	75,965	58,918
Teachers FTE	4,494	4,453	4,380	4,342	4,271	3,645
Students/Teacher FTE	18.5	18.4	18.4	18.1	17.8	16.2
Junior High						
Students	38,246	37,810	37,130	36,738	36,895	28,199
Teachers FTE	2,207	2,195	2,124	2,111	2,131	1,630
Students/Teacher FTE	17.3	17.2	17.5	17.4	17.3	17.3
High School						
Students	38,772	38,465	38,325	38,086	37,739	34,102
Teachers FTE	1,983	1,977	1,940	1,951	1,939	1,771
Students/Teacher FTE	19.6	19.5	19.8	19.5	19.5	19.3
Administration						
Students	160,011	158,205	155,873	153,450	150,599	121,219
Admin FTE	749	810	761	764	766	756
Students/Admin FTE	213.8	185.4	205	200.9	196.9	160.3

From 1998–1999 through 2002–2003, there has been no substantive change in the student-teacher ratios at either the junior high or high school levels. The student-teacher ratio at the elementary level and for administration have both decreased. Part of the decrease at the elementary level may be due to departmental class size initiatives.

It is assumed that the trends in changes in student-teacher ratios for elementary, junior high, high school, and administration will continue over the projection period and that the change will be consistent from one year to the next over the projection period. Based on this assumption, the student-teacher ratio will

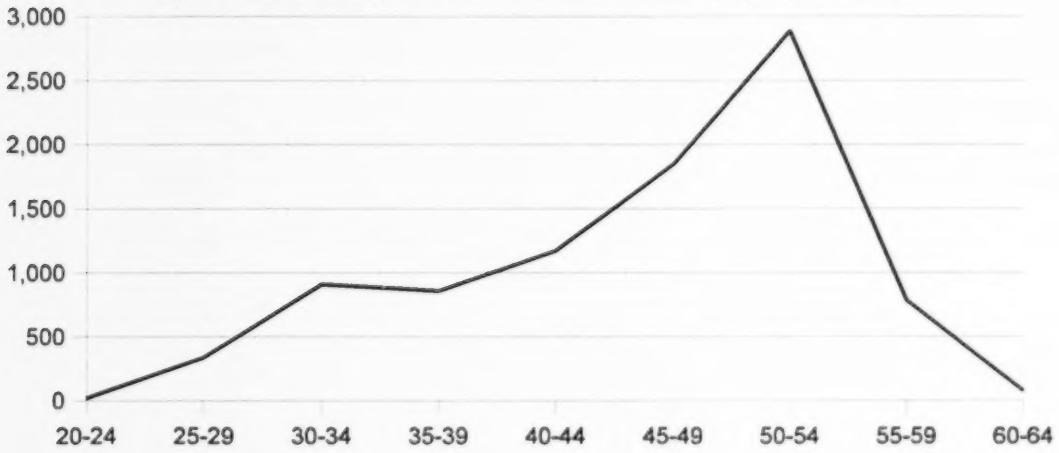
- decrease in elementary grades
- remain unchanged in junior high
- decrease slightly in high school
- decrease for administration

4.5 Teacher Retirements and Disabilities

Attrition due to retirements comprises the largest component of demand for new teachers.

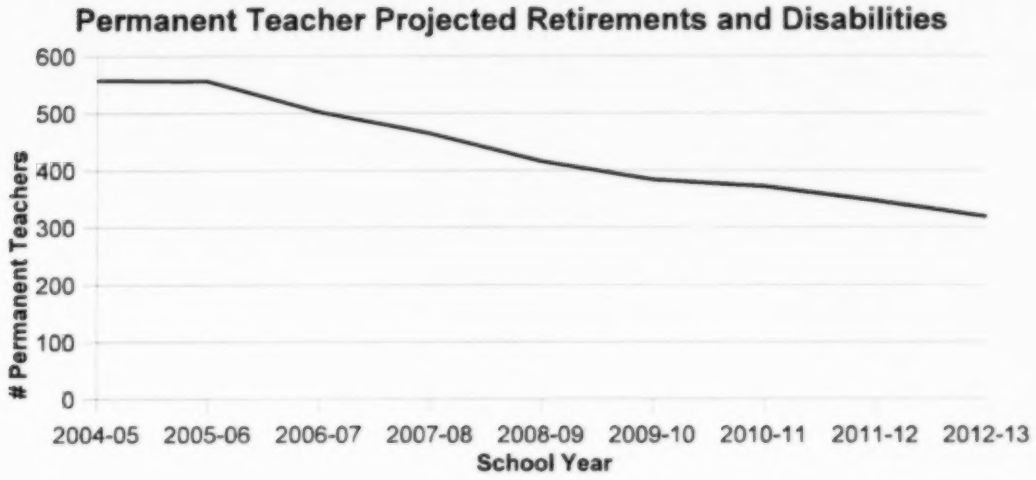
In 2002–2003, the average age of permanent and probationary teachers in Nova Scotia was 47 years. More than four in ten of these teachers were 50 years of age or older. As such, it is likely that there will be a large number of retirements over the next few years.

Age Distribution of Permanent Teachers, 2002-2003



The Pension Services Division of the Department of Finance undertook an analysis of its retirement and disability data to develop assumptions on when teachers retire or go on disability pension. Based on the analysis, it is assumed that approximately 45 per cent of teachers will retire or become disabled when they first become eligible for an unreduced pension, approximately 20 per cent of teachers will retire or become disabled prior to becoming eligible for an unreduced pension, and the remainder will leave within a few years of becoming eligible. Appendix 1 contains a table with the detailed assumptions.

Based on these assumptions for retirements and disabilities, the number of teachers leaving will peak in 2004–2005 and 2005–2006, and then start to slowly decrease until around 2012–2013. By 2012–2013, it is estimated that 300-350 permanent teachers will retire or become disabled each year.



The following limitations need to be considered when reviewing the data

- the assumptions are based on a limited history of data, i.e., four years of data
- the projections are less accurate the further they are into the future

4.6 Other Attrition of the Teacher Workforce

Other than retirements and disabilities, a teacher may leave the employment in Nova Scotia public education due to death or occupational mobility (i.e., working in other sectors or jurisdictions, or leaving the labour force).

The number of teachers who die each year is small, ranging from three to eight over the past three years. Based on this analysis it is assumed that about six teachers will die each year.

There are a number of reasons that regular teachers migrate from employment in Nova Scotia public education. These include job dissatisfaction, better opportunities in another sector or jurisdiction, accompanying a spouse migrating to another region, and withdrawal from the work force. For term teachers there is also the factor of not having their contract renewed, and being unwilling or unable to substitute teach.

There is no apparent trend for occupational mobility of regular (probationary/permanent and term) teachers. In 1999–2000 and in 2000–2001 there was a marked increase in

the occupational mobility of term teachers. This coincides with the decline in opportunities for term teachers to become probationary/permanent teachers, as a result of downsizing of the regular teacher workforce. These numbers have remained consistent over the last couple of years.

On average about 43 permanent and 88 term teachers do not return to the Nova Scotia public school system each year due to reasons other than retirements, deaths or disabilities. On average, teachers that leave due to occupational mobility represent about 80 per cent of an FTE, therefore, each year the Nova Scotia public school system loses 104 teacher FTEs to occupational mobility.

Table 7
Regular Teacher Occupational Mobility from Nova Scotia Public Education

	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003	Average	FTEs
Probationary/ Permanent	50	46	46	43	48	24	43	34
Term	72	68	89	133	80	87	88	70
Total	122	114	135	176	128	111	131	104

Includes teachers that were not in the public school system but were active the previous school year.

Temporary Attrition

Teachers can also be off for the whole or part of a school year due to special leaves. If the number of teachers on leave remains constant from year to year the impact on the aggregate demand for new teachers is neutral. Over time the number of teachers on leave has been increasing, however, it did decrease slightly in 2002–2003. Indications are that the number of teachers going on leave will remain constant in the future, unless there are new initiatives for leaves. Therefore, as with the last report, it is assumed that the number of teachers going on leave is offset by the number of teachers returning from leave, therefore, the overall impact on new demand is neutral.

Table 8
Leaves by Type—Permanent and Probationary Teachers

Type of Leave	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Deferred Salary	141	146	154	186	200	183
Educational/Sabbatical	4	38	49	39	43	33
Leave of Absence	184	220	259	373	498	463
Maternity Leave	75	121	127	137	147	148
Sick Leave	189	197	182	229	270	245
Total	593	722	771	964	1,158	1,072

4.7 Long-Term Demand Outlook

Using the above factors that contribute to new demand, over the projection period the average annual demand for teachers is about 408 teachers per year. On average there are 435 retirements and new disabilities each year, 110 teachers leave due to deaths and occupational mobility, and there is an average annual adjustment of 137 each year due to declining enrolments.

Overall new teacher demand is expected to decline over the projection period, from 539 in 2004–2005 to 351 in 2012–2013. Demand is expected to level off at the end of the projection period as the decline in projected enrolments slows and projected retirements level off.

Table 9
Projected Teacher FTE Demand by Component for Nova Scotia

	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013
Change in Teacher FTEs									
Elementary	-90	-93	-96	-84	-78	-43	-34	-15	4
Junior High	-27	-69	-58	-62	-53	-61	-61	-61	-61
High School	-12	5	0	-24	-60	-20	-20	-20	-20
Administrators	0	-2	-2	-4	-7	0	0	0	0
Total*	-128	-159	-157	-176	-199	-124	-115	-96	-77
Retirements & Disabilities	557	556	502	464	415	383	371	346	318
Other Attrition									
Deaths	6	6	6	6	6	6	6	6	6
Occupational Mobility	104	104	104	104	104	104	104	104	104
Total	110	110	110	110	110	110	110	110	110
Total Teacher Demand	539	507	455	398	326	369	366	360	351

*Note that numbers may not add due to rounding of FTEs.

5. Teacher Supply

5.1 Overview of New Teacher Supply

New supply refers to the number of new entrants into the Nova Scotia public school system. The number of Nova Scotia teacher certificates issued to teachers with a Nova Scotia residence is used as a proxy for new entrants. It is assumed that newly certified teachers, with a Nova Scotia postal code, are interested in obtaining a full-time teaching position in Nova Scotia. A recent survey of newly certified teachers confirms that most are looking for a teaching position—of these, over half were looking for a permanent position.

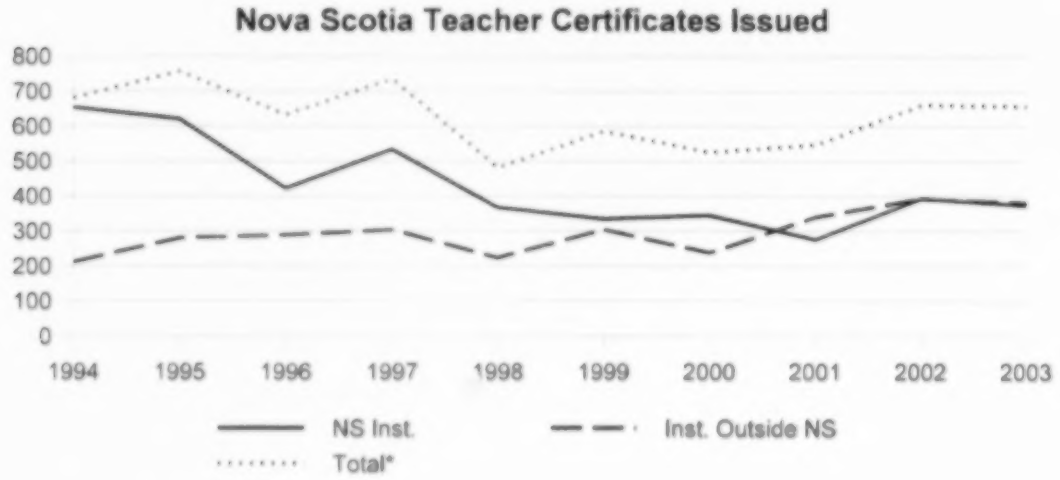
Although sources of teachers in Nova Scotia can be identified from the available data, it is not possible to allocate supply to a region, or school board, within the province. Each school board will have differing advantages and challenges in attracting teachers.

Table 10
Nova Scotia Teacher Certificates Issued by Location of Education Institution

# Recipients by Location of Program	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
NS Institutions	653	620	422	534	367	334	345	276	393	374
Institutions Outside NS	211	280	288	303	223	304	238	340	392	381
Other Atlantic Prov.	119	122	142	174	81	133	66	95	114	157
Other Canadian Provinces	64	84	84	72	60	97	68	91	126	116
Maine	13	56	49	43	68	50	93	133	130	86
Other United States	11	8	7	2	7	5	4	7	7	9
Other Countries	4	10	6	12	7	19	7	14	15	13
Total # New Certifications	**864**	**900**	**710**	**837**	**590**	**638**	**583**	**616**	**785**	**755**
Less: Graduates of NS institutions, with home address outside NS	183	143	76	101	108	52	57	69	124	97
Available NS Teacher Supply	**681**	**757**	**634**	**736**	**482**	**586**	**526**	**547**	**661**	**658**

The number of teaches receiving Nova Scotia teacher certificates has fluctuated over the past 10 years, with a substantial increase from 2001 to 2002. It is anticipated that this higher level of certificates issued will continue.

In the early part of the decade most of the certificates were issued to teachers who graduated from Nova Scotia institutions. This has changed, with about half of the certificates now being issued to graduates from non-Nova Scotia institutions.



Based on information provided by the universities, it would appear that the number of graduates from teacher education programs has been fairly consistent over the past number of years, with a slight decrease in 2004. The number of applications for education programs remains strong.

Université Sainte-Anne began offering a combined BA/BEd program in 2002–2003. It is too soon to predict the impact this could have on the supply of teachers in future years. It is expected that there will be more graduates who are fluent in French.

Table 11
Teacher Education Institutions in Nova Scotia Capacity, Graduates, and Applicants

English Instruction	Capacity	Graduates			Applicants for Class of		
		2002	2003	2004	2004	2005	2006
Acadia University	115	129	120	124	381	497	498
Mount Saint Vincent University	115	125	135	132	338	436	407
St. Francis Xavier University	95	121	113	94	540	622	544
English Instruction Total	325	375	368	350	1,259	1,555	1,449
French Instruction							
Université Sainte-Anne	80		26				

5.2 Long-Term Teacher Supply Outlook

In the past five years, on average, 344 teacher certificates were issued per year to graduates of Nova Scotia institutions. Of these, 80 have home addresses outside of Nova Scotia and it is assumed that they are not interested in obtaining a teaching position in the Nova Scotia public school system. About 331 certificates are issued each year to graduates from non-Nova Scotia institutions. Based on these figures, it is assumed that the supply of new teachers will be 595 per year.

Table 12
Annual New Supply of Teachers in Nova Scotia

Source	Number of Prospective Teachers Per Year*
Graduates of Nova Scotia Teacher Education Programs	344
- minus non-Nova Scotians	80
Total Indigenous Graduates from Nova Scotia Programs	264
Teachers Trained in Out-of-Province Programs	331
Total Average Annual Supply of Teachers	**595**

*Based on five-year average.

5.3 Returning Teachers

Every year there are a number of teachers that teach who did not teach in the previous school year. From the 1998–1999 school year to the 2002–2003 school year, there were, on average, 775 substitute teachers per year who did not teach in the previous school year. Each year there is an average of 595 teachers who were newly certified. Therefore, each year there are about 180 substitute teachers who were certified in earlier years and have returned to teaching in the Nova Scotia public school system.

Table 13
Returning Teachers

	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003	5 Year Average
Substitute Teachers Who Did Not Teach Previous Year	862	768	664	827	756	775
Newly Certified Teachers	482	586	526	547	661	595
Difference	380	182	138	280	95	180

6. The Substitute Teacher Labour Market

Substitute teachers provide a valuable resource to Nova Scotia public schools. They fill in for permanent, probationary, and term teachers who are temporarily absent from work. Often permanent teachers enter the profession as substitute teachers.

After the 2001 research report the Department undertook a major research study on substitute teachers, newly certified teachers, and teachers that were recently certified but did not teach during the 2001–2002 school year. These surveys took place from November 2002 to January 2003, using information on employment status of teachers from the 2001–2002 school year. The results of the substitute survey provides valuable insight into substitute teachers' intentions and expectations when it comes to working in the Nova Scotia public school system.

6.1 Highlights from the Substitute Teacher Survey

Any teacher who substituted during the 2001–2002 school year was included in the substitute teacher survey. Questionnaires were sent to 2,752 teachers who substituted at least one day during the 2001–2002 school year; a total of 1,666 responded for a response rate of 61 per cent.

Table 14
Employment Status of Respondents to the Substitute Teacher Survey

Employment Status	Number	Per Cent
Permanent or Probationary	68	4.1%
Term	355	21.3%
Substitute	801	48.1%
Substitute and Work Outside the Profession	154	9.2%
Substitute but Working as Short-Term Replacement	93	5.6%
Not Working in the Nova Scotia Public School System	195	11.7%
Total	1,666	

Of those teachers who responded, almost half (48 per cent) were working as substitute teachers when they completed the survey, and another 9 per cent were working as a substitute teacher and working outside the teaching profession. Over one-quarter were

working in a term position, 21 per cent reported that they were working as a term teacher, and 6 per cent reported that they were working as a short-term replacement but they normally worked as a substitute teacher.

Almost all (98 per cent) of the respondents to the substitute teacher survey reported that they were looking for a full-time or part-time permanent position. Most (69 per cent) were willing to relocate to find a position. Of those willing to relocate, half of them were willing to relocate outside of the province.

Half of those substitute teachers looking for a permanent position were willing to continue to work as a substitute teacher until they found such a position. However, 20 per cent were planning to look outside of the province for a teaching position, and 20 per cent were planning to look for a job outside of the teaching profession. Most (86 per cent) reported that they would wait two years before making a move.

6.2 Substitute Teacher Activity

Table 15 summarizes information on the substitute labour market from 1994–1995 through 2002–2003. The information includes

- the number of teachers teaching only as substitutes in the Nova Scotia public education system during the year, as a measure of the size of the substitute teacher workforce
- the average and median number of days of teaching of the substitute teacher workforce
- the profile of substitute teachers' previous-year teaching activity in Nova Scotia public education to indicate the source of substitute teacher workforce
- the profile of substitute teachers' next-year teaching activity to indicate the ability of substitute teachers to obtain regular teaching assignments, and to highlight attrition of substitute teachers from the public education system in Nova Scotia

Size and Importance of Teacher Workforce

The number of substitute teachers has not changed substantially over the last nine years, however, the average number of days taught has increased and, therefore, the number of substitute teacher FTEs has increased. The number of substitute teachers (full-time equivalents) is equal to about eight per cent of the regular teaching workforce.

i.e., permanent, probationary and term teachers. That is, the working effort of the substitute teachers is equivalent to eight per cent of the regular teacher workforce.

Table 15
Nova Scotia Substitute Teacher Labour Market

	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
Substitute Teachers	2,382	2,392	2,338	2,176	2,195	2,324	2,233	2,267	2,299
Average # Days Taught	45	47	50	53	61	62	65	65	61
Median # Days Taught	28	32	35	40	46	53	53	51	48
Previous Year Teaching Activity									
Probationary/Permanent	116	50	44	51	95	13	30	65	153
Term	102	172	121	106	72	159	128	98	119
Substitute	1,378	1,380	1,364	1,280	1,163	1,380	1,408	1,270	1,266
Did Not Teach in Nova Scotia Public Education	786	781	809	739	865	772	667	834	761
Next Year Teaching Activity									
Probationary/Permanent	44	52	22	97	21	5	12	40	-
Term	299	421	451	383	291	274	415	439	-
Substitute	1,394	1,360	1,271	1,163	1,380	1,408	1,270	1,266	-
Did Not Teach in Nova Scotia Public Education	645	559	594	533	503	637	536	522	-
Substitute Teacher Attrition Rate	27%	23%	25%	24%	23%	27%	24%	23%	-

Table 16
Substitute FTEs Compared to Regular Teacher FTEs

	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
Substitute Teacher FTEs	550	577	599	591	687	739	744	756	719
Substitute FTEs as a % of Regular Teacher FTEs	5.6%	5.9%	6.0%	6.3%	7.1%	7.7%	7.9%	8.1%	7.8%

On average, substitute teachers worked 61 days during the 2002–2003 school year. Each year, a small number of substitute teachers find permanent teaching positions. More find term positions, while the largest number return as substitute teachers the following year. A small number of permanent teachers also return as substitute teachers in the following year. Some of these are teachers who have retired and wish to continue working as a substitute teacher.

Each year about one-quarter of the substitute teachers from the previous year do not substitute or teach in the Nova Scotia public school system in any capacity.

Source of Substitute Teachers

The source of substitute teachers is assessed by their attachment to Nova Scotia public education in the previous year. Of the 2,299 substitute teachers in 2002–2003, during the previous year

- 1,266 (55.1%) were substitute teachers
- 119 (5.2%) were term teachers
- 153 (6.7%) were permanent or probationary teachers
- 761 (33.1%) did not teach in public education

Retention of Substitute Teachers

The substitute teacher survey indicated that most substitutes were interested in obtaining permanent positions. However, only 13 per cent of substitute teachers who were teaching in 1997–1998 have obtained a permanent teaching position five years later. Only 18.6 per cent have obtained a term position.

Just under one-quarter (22.9 per cent) of the substitute teachers that were substituting in 1997–1998 were substituting in 2002–2003. Almost half, 45.5 per cent, of the substitute teachers from 1997–1998 were not active in the Nova Scotia public school system five years later.

These data show that it is very difficult for substitute teachers to obtain permanent employment positions in the Nova Scotia public school system. Some teachers will continue to substitute, however, a large number leave the Nova Scotia public school education system.

This finding is consistent with a study from the United States that found that one-third of teachers leave the profession within their first three years and almost half leave in the first five years.

Table 17
Five Year Work History of Substitute Teachers in 1997–1998

"Future" Regular Teacher Status of the 2,176 Substitute Teachers Active in 1997–1998	1998-1999 1 Year Later	1999-2000 2 Years Later	2000-2001 3 Years Later	2001-2002 4 Years Later	2002-2003 5 Years Later
Probationary/Permanent	97 (4.5%)	122 (5.6%)	152 (7.0%)	190 (8.7%)	282 (13.0%)
Term	383 (17.6%)	387 (17.8%)	373 (17.1%)	437 (20.1%)	405 (18.6%)
Substitute	1,163 (53.4%)	973 (44.7%)	803 (36.9%)	619 (28.4%)	499 (22.9%)
Not Active	533 (24.5%)	694 (31.9%)	848 (39.0%)	930 (42.7%)	990 (45.5%)

7. Integrated View of Regular and Substitute Teacher Supply and Demand

Throughout the projection period, new supply is estimated to be higher than annual demand. In the earlier years new supply and annual demand are closer as more teachers are expected to retire each year from 2004–2005 through 2008–2009, than from 2009–2010 through 2012–2013. Subject area expertise will be explored later in this report.

Table 18
New Supply Versus Annual Demand, 2004–2005 Through 2012–2013

	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013
Supply									
New	595	595	595	595	595	595	595	595	595
Returning	180	180	180	180	180	180	180	180	180
Total	775	775	775	775	775	775	775	775	775
Demand	539	507	455	398	326	369	366	360	351
Difference	236	268	320	377	449	406	409	415	424

Table 19 shows an integrated view of the dynamics of teacher supply and demand. The table synthesizes information elsewhere in this *Update* into a model of the overall teacher workforce in Nova Scotia and combines new supply, returning supply, and the demand for regular and substitute teachers. The model depicts how:

- the supply of new teachers feeds the need for both regular and substitute teachers
- the number of teachers available to fill regular teacher positions is the sum of the new supply of teachers, the existing substitute pool, and teachers returning to the public education system
- the size of the substitute teacher pool is increased by new supply and decreased by the demand for regular teachers
- the substitute pool is diminished by the attrition of substitute teachers, i.e., substitute teachers not returning to teach in the public school system in any manner the following school year

Table 19
Projected Nova Scotia Permanent and Substitute Teacher Workforce (FTE) Dynamics

	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013
REGULAR TEACHER DEMAND COMPONENTS									
Retirements & Disabilities	557	556	502	464	415	383	371	346	318
Other Attrition	110	110	110	110	110	110	110	110	110
Change in # Employed	(128)	(159)	(157)	(176)	(199)	(124)	(115)	(96)	(77)
Total	**539**	**507**	**455**	**398**	**326**	**369**	**366**	**360**	**351**
TEACHERS AVAILABLE TO MEET DEMAND FOR REGULAR TEACHERS									
Beginning Substitute Pool	1,938	1,674	1,495	1,398	1,367	1,398	1,389	1,385	1,386
New Teacher Supply	595	595	595	595	595	595	595	595	595
Returning Substitute Teachers	180	180	180	180	180	180	180	180	180
Total Teachers Available	2,713	2,449	2,270	2,173	2,142	2,173	2,164	2,160	2,161
- Meet Teacher Demand	(539)	(507)	(455)	(398)	(326)	(369)	(366)	(360)	(351)
Effective Substitute Pool	2,174	1,942	1,815	1,775	1,816	1,804	1,798	1,800	1,810
Attrition of Substitutes	500	447	418	408	418	415	414	414	416
Attrition Rate %	23%	23%	23%	23%	23%	23%	23%	23%	23%
Next-Year Substitute Pool	1,674	1,495	1,398	1,367	1,398	1,389	1,385	1,386	1,393
SUBSTITUTE TEACHER METRICS									
Estimated Substitute Requirement at 10% of Regular Teacher Work Force	909	893	878	860	841	828	817	808	801
Effective Substitute Teacher Capacity Utilization	41.8%	46.0%	48.4%	48.5%	46.3%	45.9%	45.4%	44.9%	44.3%
'Teachers Available' probability for a Regular Teaching Position in current year	19.9%	20.7%	20.0%	18.3%	15.2%	17.0%	16.9%	16.7%	16.2%

Note: numbers may not add in totals due to rounding

The integrated dynamics model assumes that the labour market components for regular teachers are operating effectively, meaning that

- Nova Scotia school boards are successful in recruiting teachers to meet their demand
- all projected supply will be available to teach, either in regular or substitute positions
- teachers are aware of the opportunities for them to work in the Nova Scotia public education system, and they are willing to move where jobs are offered
- many new teachers start their career as substitute teachers with the intention of becoming permanent teachers
- the attrition of substitute teachers is 23 per cent per year—based on an analysis of previous years' data

Based on this analysis, the effective substitute teacher pool will decrease from its current level through to the 2007–2008 school year. The effective substitute teaching pool will then increase slightly, but will not return to its 2004–2005 level. It is anticipated that there will be a large enough substitute pool to meet the demand in peak periods, assuming a 10 per cent absenteeism rate for permanent teachers. However, it may be difficult to acquire sufficient substitute teachers to meet the demand in certain geographical regions or for certain subjects or specialty areas.

8. Demand and Supply by Subject, Specialty, and Administration

This section compares annual estimates of supply by category with corresponding projections of demand to obtain indications of the subjects and specialty areas where the outlook is for significant labour market imbalances. Both the measures of supply and projections of demand are approximations of the future, therefore, the comparisons are not appropriate for fine tuning. Nevertheless, there are subjects and specialties where the prospect for major imbalances are clear.

The consequences of oversupply will be the misdirection of teacher education program resources in Nova Scotia institutions, and that prospective teachers will be educated for an occupation in which there is a reduced opportunity to work in the province. There is at least a chance that Nova Scotia-educated teachers who are not employed in Nova Scotia will find suitable teaching work elsewhere. The consequence of shortages, however, is more critical for public education in Nova Scotia, because school boards will have difficulty hiring teachers who are fully prepared to teach the Public School Program in their respective subjects. In specialized areas such as Support Services, a shortage of teachers means that the individualized needs of students may not be attended to in the best manner.

8.1 Projected Teacher Demand by Subject Area

Projected demand by subject, specialty area, and administration combines the

- replacement demand for teachers who are estimated to retire (or become disabled) by year according to the amount of time the teacher devotes to the subject, specialty area or administrative duties in the 2002–2003 school year
- net changes in teaching employment and other attrition components are distributed according to the number of FTEs providing services in these areas in the 2002–2003 school year

The following should be considered when interpreting these data

- the uncertainty around when teachers retire will be greater the smaller the number of teachers in a subject or specialty area
- subject areas taught are based on one year of data—experienced teachers may change the subjects they teach in future years
- changes in emphasis on curriculum or specialty areas may impact the future supply and demand by subject and specialty area

Table 20
Projected Demand for Teachers in Nova Scotia by Subject/Specialty/Administration

	2004–05 through 2008–09			2009–10 through 2012–13		
	Retirements	Other Factors	Total	Retirements	Other Factors	Total
SECONDARY*	**808**	**(74)**	**734**	**498**	**(90)**	**408**
English	131	(10)	121	70	(12)	58
French**	50	(8)	42	43	(9)	34
Other Languages	0	0	0	0	0	0
Social Studies	127	(9)	118	61	(12)	49
Mathematics	129	(11)	118	77	(13)	64
Science	112	(10)	102	65	(12)	53
Biology	25	(2)	23	15	(2)	13
Physics	16	(1)	15	7	(1)	6
Chemistry	10	(1)	9	6	(1)	5
General & Other Sciences	61	(6)	55	37	(8)	29
Physical Education**	58	(6)	52	45	(7)	38
Fine Arts**	64	(9)	55	55	(11)	44
Technology Education	45	(4)	41	27	(5)	22
Business Education/ Entrepreneurship	17	(1)	16	9	(2)	7
Personal Development/ Career Education	48	(4)	44	26	(5)	21
Family Studies	26	(2)	24	17	(2)	15
Multiple Subjects	1	0	1	3	0	3
ELEMENTARY	**1,036**	**(184)**	**852**	**599**	**83**	**682**
SPECIALTIES:						
Education Support	30	(3)	27	14	0	14
Guidance	40	(3)	37	23	(2)	21
Special Education/Resource	185	(30)	155	103	3	106
ADMINISTRATION	**396**	**30**	**426**	**181**	**36**	**217**
TOTAL	**2,495**	**(264)**	**2,231**	**1,418**	**30**	**1,448**

*Secondary also includes teachers with assignments in both secondary and elementary grades.
**Includes demand in this subject at the elementary level.

Table 20 shows projected demand by subject and specialty areas. Overall, demand is higher in the 2004–2005 to 2008–2009 projection period than in the 2009–2010 to 2012–2013 period. Demand is highest for elementary grades, administration, and special education and resource.

Table 21
Academic Majors of Nova Scotia Teacher Certification Recipients

Subject/Specialty	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
English	95	107	66	110	94	118	89	100	123	114
French	52	51	62	60	39	40	28	42	39	37
Other Languages	1	2	1	4	8	6	4	5	4	2
Social Studies	105	108	90	101	123	96	105	132	129	157
Mathematics	27	28	6	17	11	20	12	15	26	18
Science	74	62	40	54	65	59	60	86	90	90
Biology	54	38	17	38	42	41	43	66	68	57
Chemistry	11	13	9	12	13	12	7	16	15	22
Physics	4	4	7	2	5	6	5	3	2	6
General and Other	5	7	7	2	5	0	5	1	5	5
Physical Education	111	114	99	106	96	30	18	10	9	11
Health Education	1	1	0	0	0	1	0	0	0	0
Fine Arts	32	25	30	34	25	26	13	16	24	20
Music	28	24	27	30	20	21	9	14	17	18
Other	4	1	3	4	5	5	4	2	7	2
Technology Education	11	3	2	1	1	1	4	1	1	2
Business Education	9	9	9	6	6	13	7	29	16	18
Family Studies	10	8	3	6	5	4	4	9	13	5
Other Subjects	348	403	618	365	242	258	258	325	348	331
Total	**876**	**921**	**726**	**864**	**715**	**672**	**602**	**770**	**822**	**805**

8.2 Projected Teacher Supply by Subject Area

The supply by subject is based on the undergraduate major and minor of newly certified teachers. The supply of newly certified teachers has increased over the past two years. As shown in Table 21, the increase is not evenly distributed across all subject areas. The largest increases have been for teachers with a major in social studies, English, and the sciences. There have been some increases in the number of newly certified teachers with a major in mathematics, physics and chemistry. Two subject areas, business education and family studies, show decreases.

8.3 Projected Imbalances

Elementary and Secondary Teachers

As shown in Table 22, average annual demand for most subjects decreased in the second half of the projection period. Demand for elementary teachers, however, remained unchanged, and demand for music teachers increased.

An analysis of demand and supply by subject area shows that surpluses remain in English, social studies and biology. There have been increases in the number of new certificates issued to teachers with a major in mathematics, chemistry and physics. If this trend continues, there should not be a shortage in chemistry and physics, though the market is tight for physics. The market is also tight for physical education, fine arts (other than music), and family studies. There will likely be a shortage in mathematics, and general science.

The supply of French teachers implies that there may be a surplus of French teachers. However, the situation regarding the need for teachers with an academic major in French is clouded by the general problem of finding teachers who are fluent in French to teach a number of subjects in French speaking schools and French second language programs, both of which compete for the same pool of teachers.

The supply of elementary teachers is equal to the average annual demand. It is possible that the demand for elementary teachers may be met by the continuing oversupply of teachers with academic backgrounds in secondary endorsation subjects.

Table 22
Secondary and Elementary Supply and Projected Demand by Subject

	Initial Teaching Certificates Issued in 2003 by Undergraduate*		Projected Average Annual Demand	
	Major	**Minor**	**2004–05 through 2008–09**	**2009–10 through 2012–13**
SECONDARY	**466**	**231**	**147**	**102**
English	109	59	24	15
French	32	18	8	8
Languages	2	1	0	0
Social Studies	152	82	24	12
Mathematics	13	15	24	16
Science	82	37	21	13
Biology	48	23	5	3
Chemistry	22	11	3	1
Physics	6	1	2	1
General and Other	6	2	11	8
Physical Education	13	6	10	10
Fine Arts	23	3	11	11
Music	14		5	8
Other	9	3	6	3
Technology Education	18	2	8	6
Business Education	16	8	3	2
Personal Development/ Career Education	NE	NE	9	5
Family Studies	6		5	4
ELEMENTARY	**170**	**N/A+**	170	171
TOTAL	**636**		**317**	**273**

*For teachers with a Nova Scotia postal code.
NE: No Endorsation.

Table 23
Administration and Student Support Services Supply and Projected Demand

	Projected Average Annual Demand	
	2004–05 through 2008–09	2009–10 through 2012–13
Administration	85	54
Education Support		
Speech Therapy	2	1
Testing Services	1	1
Social Work	<0.5	<0.5
Guidance	7	5
Special Education/Resource	31	26
TOTAL	126	87

Administration

Demand for administrators is estimated to be 85 per year for the first part of the projection period, falling to 54 in the second period (see Table 23). Currently there are 200 teachers enrolled in the Administration program at Saint Francis Xavier University and 43 in the Leadership program at Acadia University. It is unknown when these individuals will complete their program. Depending on the number completing the program each year, there may be sufficient numbers to meet future demand. The number of teachers participating in and completing these programs needs to monitored regularly to ensure that there will be a sufficient supply of administrators to meet demand.

Education Support

Currently there are 12 students enrolled in the testing services program at Mount Saint Vincent University, while demand is estimated to be one per year. As with the administration program, it is not clear when these individuals will complete their program, but there appears to be sufficient numbers to meet expected future supply for testing services.

Other education support services include speech therapy and social work. New demand for these services is low, however, schools have to compete with health boards and private practice for these positions making it difficult to attract individuals and to retain them on their staff.

Guidance

The new demand for guidance is estimated to range from five to seven per year. Currently there are 151 teachers enrolled in the guidance program at Acadia University. It is anticipated that there are sufficient numbers to meet expected future demand for guidance.

Special Education/Resource

Demand for special education and resource teachers is approximately 30 per year. To address supply needs, Acadia offers a program in special education and resource. As well, Mount Saint Vincent and St Francis Xavier have been offering specific programming for resource teachers in Nova Scotia. Several cohorts of teachers have participated in these programs. These cohorts have consisted of both existing resource teachers upgrading their qualifications and teachers interested in the resource field. It is anticipated that Mount Saint Vincent will continue to provide this program in the future.

9. Conclusion

The status of the teacher labour market in Nova Scotia has improved since the 2001 *Update* report, mainly due to the increase in the number of newly certified teachers and the number of teachers returning to the Nova Scotia teacher labour market. There are still concerns of potential shortages in mathematics, and general science. As well, the market is tight for physics, physical education, fine arts (other than music), and family studies. There is also a possibility that some of the geographical areas throughout the province may have difficulties in obtaining new teachers, though most newly certified teachers reported that they were willing to move to find a permanent position. In areas of shortage, continued effort is required to recruit students with appropriate backgrounds to meet these subject areas needs.

This study did not examine the match between current teachers, their majors/minors and the subject areas they teach. An audit is planned for the near future to examine this important issue.

Most newly certified and substitute teachers are looking for permanent teaching positions. Surveys of these teachers show that they are wiling to work as substitute teachers for a couple of years before looking elsewhere for a permanent position. However, the data show that even after five years, only one in ten substitute teachers has found a permanent position; one in five has found a term position, and almost half have left the public school system in Nova Scotia. Future initiatives should focus on retaining these teachers in the public school system to ensure an adequate supply of substitute teachers, particularly in subject areas where demand may be higher than or close to supply and in all geographical areas.

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Table 1-A
Projected Enrolments by Grade Level and Estimated Teacher Full-Time Equivalents (FTEs) for Nova Scotia

	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013
Enrolments									
Elementary	71,329	69,042	66,733	64,662	62,725	61,410	60,258	59,428	58,918
Junior High	36,581	35,386	34,383	33,303	32,391	31,343	30,295	29,247	28,199
High School	37,590	37,641	37,584	37,063	35,846	35,410	34,974	34,538	34,102
Total	145,500	142,069	138,700	135,028	130,962	128,163	125,527	123,213	121,219
Students per Teacher FTE									
Elementary	17.5	17.3	17.1	17	16.8	16.6	16.5	16.3	16.2
Junior High	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
High School	19.5	19.4	19.4	19.4	19.4	19.3	19.3	19.3	19.3
Administrators	188.4	184.4	180.6	176.8	173.1	169.5	165.9	163	160.3
Teacher FTEs									
Elementary	4,085	3,993	3,896	3,812	3,734	3,691	3,657	3,641	3,645
Junior High	2,115	2,045	1,987	1,925	1,872	1,812	1,751	1,691	1,630
High School	1,933	1,938	1,937	1,913	1,852	1,832	1,812	1,792	1,771
Administrators	772	778	768	764	757	756	756	756	756
Total	8,905	8,746	8,589	8,414	8,215	8,091	7,976	7,882	7,808
Annual FTE Change									
Elementary	-90	-93	-96	-84	-78	-43	-34	-15	4
Junior High	-27	-69	-58	-62	-53	-61	-61	-61	-61
High School	-12	5	0	-24	-60	-20	-20	-20	-20
Administrators	0	-2	-2	-4	-7	0	0	2	4
Total	-128	-159	-157	-176	-199	-124	-115	-96	-77

Table 2-A
Age Distribution of Permanent Teachers, 2002–2003

Age Group	Number	Per cent
20-24	16	0.2
25-29	334	3.8
30-34	905	10.2
35-39	854	9.6
40-44	1,168	13.2
45-49	1,847	20.8
50-54	2,887	32.6
55-59	780	8.8
60-64	72	0.8
Total	8,863	100
Average Age	47	

Appendix 1: Teacher Pension Plan Retirement and Disability Assumptions

Note that the teacher retirement and disability assumptions were provided by Department of Finance staff, based on an analysis of four years of pension data.

First Become Eligible to Retire with Unreduced Pension	Projected to Retire								
	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Eligible before 2004–2005	32.8%	23.6%	16.1%	10.6%	6.6%	4.1%	2.5%	1.6%	1.0%
2004–2005	57.8%	12.8%	9.2%	8.3%	4.9%	2.9%	1.7%	1.0%	0.6%
2005–2006	11.9%	50.0%	10.9%	8.4%	5.9%	4.2%	3.0%	2.1%	1.5%
2006–2007	4.4%	11.6%	46.3%	11.2%	8.0%	5.8%	4.2%	3.0%	2.2%
2007–2008	2.6%	4.0%	11.0%	45.0%	11.0%	8.0%	5.9%	4.3%	3.1%
2008–2009	1.9%	2.6%	4.1%	11.2%	45.0%	11.0%	7.8%	5.5%	3.9%
2009–2010	3.0%	1.9%	2.4%	4.3%	11.0%	45.0%	11.0%	7.4%	4.9%
2010–2011	0.4%	2.8%	1.5%	1.9%	4.0%	11.0%	45.0%	11.0%	7.6%
2011–2012	0.5%	0.4%	2.7%	1.2%	2.0%	4.0%	11.0%	45.0%	11.0%
2012–2013	0.2%	0.5%	0.4%	2.0%	1.5%	2.0%	4.0%	11.0%	45.0%
2013–2014	0.3%	0.1%	0.4%	0.4%	1.0%	1.5%	2.0%	4.0%	11.0%
2014–2015	0.7%	0.3%	0.0%	0.2%	0.5%	1.0%	1.5%	2.0%	4.0%

First Become Eligible for Unreduced Pension	# Eligible for Unreduced Pension	Projected to Retire								
		2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Before 04–05	441	145	104	71	47	29	18	11	7	4
2004–2005	498	288	64	46	41	24	14	8	5	3
2005–2006	562	67	281	61	47	33	24	17	12	8
2006–2007	509	22	59	236	57	41	30	21	15	11
2007–2008	434	11	17	48	195	48	35	26	19	13
2008–2009	383	7	10	16	43	172	42	30	21	15
2009–2010	344	10	7	8	15	38	155	38	25	17
2010–2011	357	1	10	5	7	14	39	161	39	27
2011–2012	336	2	1	9	4	7	13	37	151	37
2012–2013	311	1	2	1	6	5	6	12	34	140
2013–2014	275	1	0	1	1	3	4	6	11	30
2014–2015	283	2	1	0	1	1	3	4	6	11
Total		**557**	**556**	**502**	**464**	**415**	**383**	**371**	**346**	**318**

For example, in 2008–2009, 383 teachers will first become eligible for an unreduced pension

- 19.8% of these will retire early: 1.9% (7) in 2004–2005, 2.6% (10) in 2005–2006, 4.1% (16) in 2006–2007, and 11.2% (43) in 2007–2008

- 45% or 172 will retire when they first become eligible for an unreduced pension
- the remainder will retire sometime after they become eligible for an unreduced pension: 11% (42) in 2009–2010, 7.8% (30) in 2010–2011, 5.5% (21) in 2011–2012, and 3.9% (15) in 2012–2013, and the remainder after the projection period